

# MANAGING SOLID WASTE

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## Indiana Composting Facilities: 2000 Update

This volume updates volume 5, number 1 of *Managing Solid Waste*, "Indiana Composting Facilities: 1999 Update." See volume 3, number 2 of *Managing Solid Waste*, "Indiana Composting Facilities" for a detailed summary and history of Indiana composting facilities from 1994 through 1997.

Composting allows for the reclamation and reuse of materials such as discarded vegetative matter that would otherwise end up in Indiana's landfills and incinerators. The Indiana Department of Environmental Management (IDEM) administers a registration and annual reporting program for facilities composting vegetative matter. Historically, Indiana composting facilities process between 200,000 and 250,000 tons of vegetative matter annually, although in 2000 this amount increased to 330,525 tons – mostly leaves, wood, brush, and mulch. Between 35 and 45 percent of the compost produced each year is given away by local governments as part of their reuse and recycling efforts.

This paper is the 12th in the series *Managing Solid Waste* by the IDEM Office of Land Quality. For more information, contact the Facilities Data Analysis Section at (317) 233-4624. A copy of this paper can be downloaded at <http://www.IN.gov/idem/land/pubsforms/papers.html>.

### INTRODUCTION

Composting is the transformation of vegetative matter and other organic materials into a humus (or compost) better suited as fertilizer than the original materials. The transformation is accomplished through natural biochemical processes. Composting is one of the main processes used to reclaim and reuse vegetative matter. Other processes include mulching and land application.

According to most recent (1999) U.S. Environmental Protection Agency statistics, yard wastes make up approximately 12% by weight of the municipal solid waste stream nationally. This includes mostly vegetative matter like leaves, brush, wood, and grass. The diversion of these materials from final disposal can increase the life of Indiana landfills. In addition, the re-use of discarded vegetative matter as either compost or mulch decreases the use of chemical fertilizers and other landscaping products that can have large negative environmental impacts.

At the end of 2000, there were 88 registered composting facilities in Indiana. This is an increase from the 50 facilities registered in 1994, the first year registration was required, and an increase from 78 registered facilities in 1999 (see Table 1). More than half of Indiana counties have at least one composting facility. It is important to note that several facilities were inactive at some point during the last five years.

1998 through 2000 totals are listed separately from previous year totals because prior to 1998, facilities submitted receipt totals in volume units; beginning in 1998, facilities submitted all data in tons. Thus, 1998 - 2000 and prior year figures are not comparable.

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## Indiana Composting Facilities

Table1. Tons of Total Materials Received by Indiana Composting Facilities in 1999 and 2000			
County	Facility	Tons Received 1999	Tons Received 2000
Adams	City of Berne WWTP	opened 2000	487
Adams	Decatur Compost Facility	1,225	1,199
Allen	Advanced Turf	opened 2000	57
Allen	Martin Service Systems	2,980	2,795
Allen	National Serv-All Compost	4,131	4,661
Bartholomew	Columbus- Bartholomew Yard Waste Site	4,848	8,125
Boone	Green Cycle Whites Town Site	5,246	4,009
Boone	Lamb Farms, Inc	opened 2000	4,341
Cass	Cass Co. SW Composting Site	3,745	4,247
Clark	Clark County Compost	9,438	18,986
Clark	Earth First of Kentuckiana Inc	opened 2000	1,220
Clark	Koetter & Smith	750	273
Daviess	City of Washington Composting Facility	1,583	7,569
Dearborn	Greendale Composting	693	2,025
Decatur	Decatur Hills Inc.	0	3
De Kalb	Dekalb Co. Yard Waste Composting	2,513	3,453
Elkhart	City of Goshen Composting	1,520	1,855
Elkhart	Elkhart Co. Landfill	91	78
Elkhart	Elkhart Environmental Center	6,165	10,100
Fayette	City of Connersville Compost Facility	999	1,105
Floyd	Earth First of Kentuckiana Inc.	7,052	7,144
Fountain	Fountain Co. Recycling Station/Compost Site	33	87
Fountain	Harrison Steel Castings Compost Site	19	19
Franklin	Brookville WWTP Compost Facility	63	128
Fulton	County Line Landfill	0	0
Gibson	Princeton Compost	2,769	closed 1999
Grant	Bank View Farms Compost	opened 2000	3,000
Grant	Gas City Composting	472	475
Grant	Grant Co Compost Facility	opened 2000	77
Grant	Hoosier Organic Drop-Off & Mulch Recycling Center	opened 2000	20
Grant	IRA Stair Compost Facility	opened 2000	120
Hamilton	Creative Landscaping and Compost Co.	2,076	4,261
Hancock	Hancock Co. Landfill	0	0
Hendricks	Plainfield Correctional Facility	3,001	2,984
Hendricks	Ray's Composting Facility	0	0
Howard	City of Kokomo Yard Waste Composting	3,004	2,970
Huntington	City of Huntington Landfill Composting	1,141	2,218
Jackson	Seymour City Composting Facility	no report	1,701
Jefferson	City of Madison T.S.	2,200	1,094
Jefferson	Town of Hanover Composting Facility	29	330
Kosciusko	City Warsaw Compost	not required	7,781
Kosciusko	Superior Excavating	770	674
La Porte	Westville C.F. Compost Site	1,713	3,504
Lagrange	LaGrange Co. Yard Waste Composting	375	2,132
Lagrange	Shipshewana WWTP	not required	57
Lake	City of Gary Compost	8,434	closed 1999
Lake	Fertile Earth Gary Compost Facility	14,028	13,929
Lake	Greencycle of Indiana E. Chicago Facility	2,604	3,678
Lake	Munster Landfill	1,230	0
Lake	Stuhlmacher Soil Service, Inc.	184	215

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Table 1. Tons of Total Materials Received by Indiana Composting Facilities in 1999 and 2000			
County	Facility	Tons Received 1999	Tons Received 2000
Lake	Town of Griffith Landfill	2,325	2,835
Lawrence	Lawrence County Compost	386	385
Madison	Adams Compost Facility	3,750	300
Madison	Pendleton CF Compost	597	346
Marion	Greencycle of Indiana	27,829	23,863
Marion	Southside Landfill	16,043	8,326
Marion	Tiffany Lawn and Garden Supply Inc	no report	38,000
Marion	Town of Cumberland	380	475
Marshall	Van Vactor Farms Inc.	opened 2000	426
Monroe	Good Earth Composting	468	463
Monroe	Topsoil Composting Service	2,888	3,005
Morgan	Greendell Farm	2,120	1,000
Newton	Good Earth Farms	0	0
Newton	Newton County Development Landfill	0	0
Noble	Ligonier Compost	339	88
Pike	Velpen C/D Landfill, Inc.	286	102
Porter	Crocker Composting Site	1,083	1,562
Porter	Portage Composting	4,377	0
Porter	Valparaiso Municipal Composting Site	3,499	3,568
Pulaski	Town of Francesville	opened 2000	177
Pulaski	Town of Winamac	opened 2000	246
Putnam	Putnamville Correctional Facility	380	51,583
Randolph	City of Winchester Compost	429	490
Randolph	Randolph Farms, Inc.	23	2,790
St. Joseph	Household Hazardous Waste and Recycling Center	1,966	2,219
St. Joseph	Organic Resources	19,668	28,433
St. Joseph	Pioneer Southern Horticultural Products	61	73
Shelby	Caldwell Landfill	1,376	1,141
Steuben	Steuben Co. Yard Waste Composting	1,654	1,528
Sullivan	Wabash Valley Correctional Facility	1,891	494
Tippecanoe	Purdue University	400	300
Tippecanoe	Tippecanoe Co. Compost Facility	725	821
Tipton	City of Tipton Composting Facility	1,245	1,279
Vanderburgh	Laubscher Meadows Composting Facility	5,083	7,909
Vigo	Victory Landfill	3,468	3,895
Vigo	White Violet Center	98	98
Wabash	The Compost	opened 2000	110
Washington	Washington Co. SWMD Composting	1,455	3,585
White	Transfarm, Inc.	20,837	3,000
Whitley	City of Columbia Compost Facility	260	424
NOTE 1: Facilities for which tons are "not required" registered after the 1999 blank report forms were mailed by IDEM and thus were waived from reporting until the following year of operation.			
NOTE 2: Six facilities did not submit annual report forms at publication of the 1999 update. IDEM has since received most of these and has updated the data. This resulted in small differences in 1999 information between the figures in this report and those in the 1999 report.			

## Indiana Composting Facilities

### **REGULATORY AND OPERATIONAL REQUIREMENTS**

In 1992, the Indiana Legislature approved Public Law 84, now codified as IC 13-20-9. This law includes a restriction on disposal of vegetative matter. The ban applies to residential, commercial, and industrial sources. IDEM has issued guidance to interpret what materials are subject to the ban. (See Table 2. More information regarding the yard waste ban appears in the nonrule policy document “Important Notice Regarding the Yard Waste Disposal Ban,” available from IDEM’s Office of Land Quality.) This ban makes composting facilities an essential facet of solid waste management.

Composting facilities are required by state law to register with IDEM. Each registration is valid for five years, and can be renewed by submitting an updated registration form to IDEM 90 days prior to expiration.

There is no fee for registration or renewal. Composting operations that process less than 2,000 pounds of vegetative matter during a year are exempt from these registration requirements.

In addition to the registration requirements, the law requires that the facility operator submit an annual report to IDEM. The Composting Facility Annual Report indicates the amount of vegetative matter processed during the previous year, and the final use of the compost. The first reporting year was 1994.

Table 2. Summary of Indiana’s Yard Waste Ban		
Materials SUBJECT to Yard Waste Disposal Ban	●	Leaves
	●	Brush
	●	Woody vegetative matter greater than 3 feet in length
Materials EXEMPT from Yard Waste Disposal Ban	●	Grass
	●	Woody vegetative matter bagged, bundled, or otherwise contained and less than 3 feet in length
	●	Very small amounts of vegetative matter bagged, bundled, or otherwise contained and less than 3 feet in length AND combined with other solid waste
	●	Christmas trees
	●	House plants
	●	Vegetable food scraps
	●	Vegetative by-products not derived from landscaping maintenance or land clearing projects such as from flower shops and funeral homes
	●	IDEM-approved composted vegetative matter used as cover material for solid waste landfill

### **MATERIALS PROCESSED**

The 88 facilities active in 2000 accepted approximately 330,000 tons of organic materials. This increase over the 1999 total of 220,000 tons is due to the increase in the number of active facilities over last year. Two of these accounted for almost 90,000 tons of material received. Tons reported accepted is an approximation for two reasons:

1. Beginning in 1998, composting facilities are required to report their intake in tons. Many facilities do not have weigh scales, and must convert volume measurements to weight based on conversion factors such as those in Table 3. Volume-to-weight conversion factors vary widely depending on the composition, moisture content, and compaction rate of the vegetative matter.

## Indiana Composting Facilities

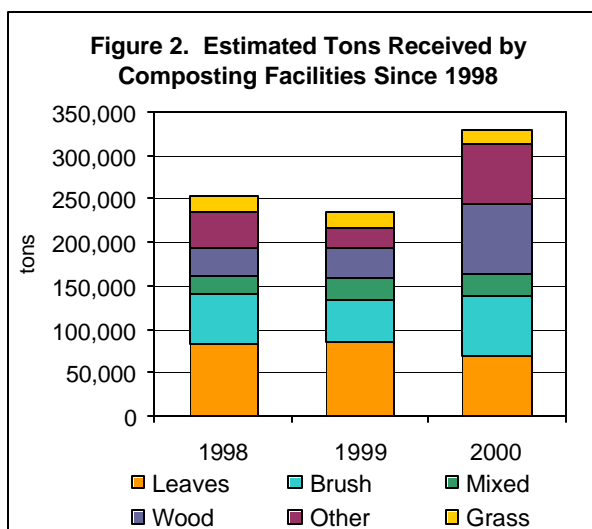
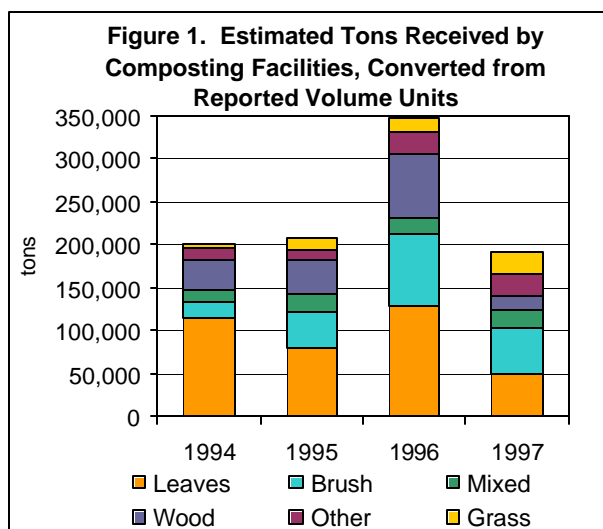
2. Some loads of materials are received in a manner that prohibits documentation by type and/or weight, especially small loads from residential customers. In 2000, 36 of 88 facilities or 41% received such undocumented loads.

As shown in Figures 1 and 2, leaves accounted for a significant portion of total receipts through 1999. In 2000, wood and

“other” materials, received in approximately equal amounts, accounted for the majority of receipts by weight. “Other” includes 38,000

tons of mulch received by a facility reporting for the first time in 2000.

Table 3. Examples of Conversion Factors for Compostable Materials (Cubic Yards Per Ton)		
Material Description	Loose	Compacted
Brush	6.67	2.20
brush, shredded	5.37	--
Cardboard	6.67	--
food waste	1.30	--
Grass	5.00	2.50
Leaves	10.00	5.00
leaves, shredded	6.70	5.71
mixed yard waste, fall	8.10	3.60
mixed yard waste, summer	5.70	2.60
Paper	4.00	--
whole wood	7.14	5.88
wood, chipped	4.00	3.60



### FINAL USES OF COMPOST AND OTHER PRODUCTS

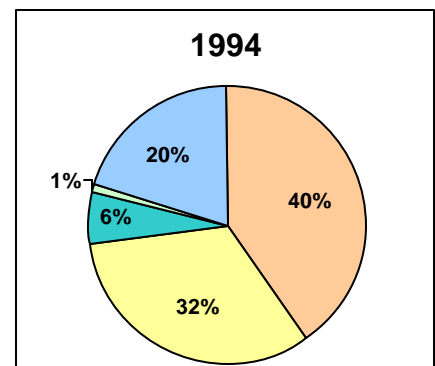
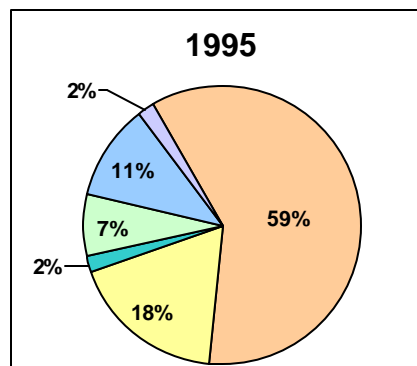
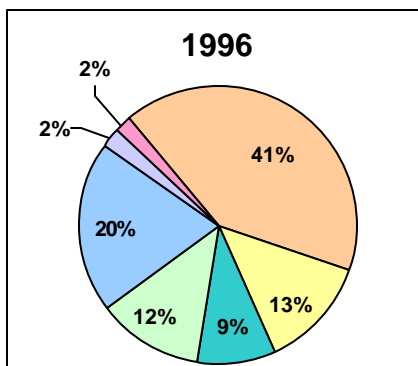
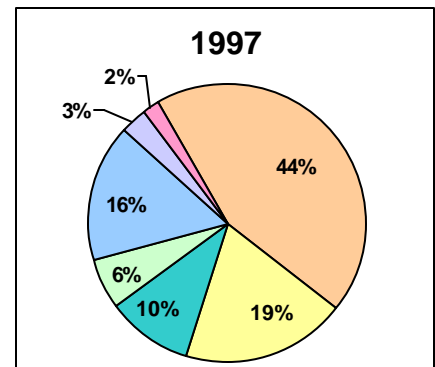
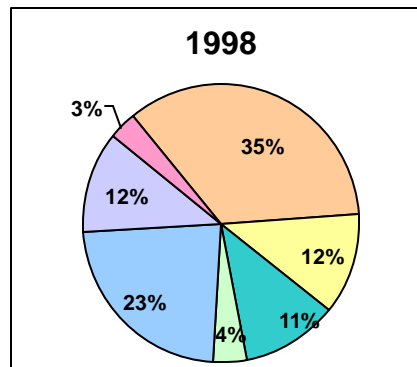
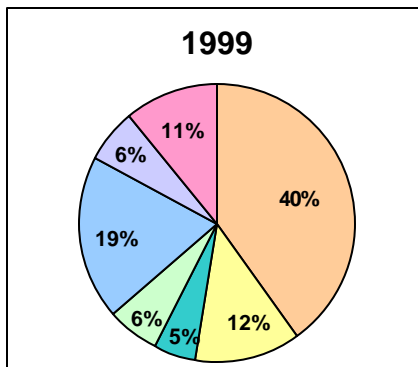
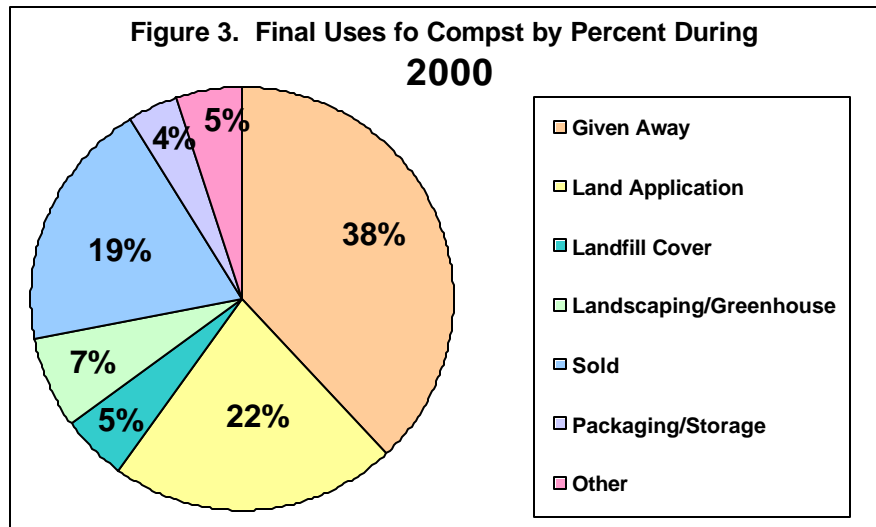
Composting facilities may produce finished compost in as short as three months or as long as two years, depending on the type of

raw materials, ambient temperature, and processing methods. At the end of 2000, 36% of the materials managed by Indiana registered composting facilities were still in the process of being converted to compost. Over the last seven years, materials received and still in process of being converted to

compost at year end ranged from 33% to 50%.

Figure 3 shows the final uses of materials that were successfully converted into either compost or mulch during the last seven years. In 2000, facilities gave away 38% of total converted product, a 3% decrease from the amount given away in 1999. Facilities giving away product are primarily those run by cities, counties, or solid waste management districts.

## Indiana Composting Facilities



### REFERENCES AND FURTHER READING

Indiana Environmental Statute IC 13-20-9,  
*Restrictions on Disposal of Vegetative Matter*

Indiana Department of Environmental Management  
Nonrule Policy Document, *Important Notice Regarding the Yard Waste Disposal Ban*, January 2000

Indiana Department of Environmental Management  
and the Indiana Recycling Coalition, *Indiana Yard Waste Solutions*; January 1993

U.S. Environmental Protection Agency, Office of  
Solid Waste and Emergency Response, *Municipal Solid Waste in the United States: 1999 Facts and Figures* ([www.epa.gov/epaoswer/non-hw/muncpl/pubs/mswfinal/pdf](http://www.epa.gov/epaoswer/non-hw/muncpl/pubs/mswfinal/pdf))